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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,559	04/09/2004	Hans F. van Rietschote	5760-01301/VRTS 0066DIV	1272
35690 7590 02/15/2007 MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. 700 LAVACA, SUITE 800 AUSTIN, TX 78701			EXAMINER ELLIS, KEVIN L	
			ART UNIT 2188	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/15/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/821,559

Applicant(s)

VAN RIETSCHOTE, HANS F.

Examiner

Kevin L. Ellis

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-35 and 44-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-35 and 44-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 4/9/04, 8/23/04, 11/10/04, 4/4/05 & 11/22/06.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**Detailed Action**

1. Claims 21-35 and 44-50 are presented for examination. Claims 1-20 and 36-43 have been cancelled by Amendment. This Office Action is in response to the Amendment filed 4/9/04.
2. Information disclosed and listed on PTO 1449 has been considered.

***Claim Rejections – 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 21-24 and 44-46 are rejected under 35 U.S.C. § 102(e) as being anticipated by Reuter et al., U.S. Patent 6,772,231.

A) As to claims 21 and 44, Reuter et al. discloses the invention as claimed. There is an apparatus comprising processing hardware with an operating system (see Fig 1A), and a storage management system configured to provide one or more virtual storage devices (Fig 1A Ref 150), and wherein a set of commands supported by the storage management system for the virtual storage devices includes (i) a set of standard commands (Col 4 Lines 1-10) and (ii) one or more additional commands (Col 7 Lines 21-30).

- B) As to claim 22, an application would be configured to execute with the operating system of the host.
- C) As to claims 23 and 45, the virtual storage devices are virtual SCSI devices (see Col 2 Lines 18-41).
- D) As to claims 24 and 46, the additional commands can be considered to be additional "input/output control" commands since they control the operation of the virtual storage device and are passed using the SCSI (I/O) protocol (see Col 7 Lines 21-30).

5. Claims 21-26, 29-33, and 44-48 are rejected under 35 U.S.C. § 102(e) as being anticipated by Blades et al., U.S. Patent 6,493,811.

- A) As to claims 21, 29, and 44, Blades et al. discloses the invention as claimed. There is an apparatus comprising processing hardware with an operating system (see Fig 1), and a storage management system configured to provide one or more virtual storage devices (Fig 1 Ref 12), and wherein a set of commands supported by the storage management system for the virtual storage devices includes (i) a set of standard commands (Col 4 Lines 46-65) and (ii) one or more additional commands (Col 5 Line 60 to Col 6 Line 4, Col 6 Lines 17-21, Col 10 Lines 20-24; Blades et al. describes additional commands that are passed from the host system 10 that are executed/processed by the mass storage system controller 12). As for the invention being a computer reading medium, Blades et al. discloses this (see Col 21 Lines 1-6).

- B) As to claim 22, an application would be configured to execute with the operating system of the host (see Fig 1 Ref 66).
- C) As to claims 23, 30, and 45, the virtual storage devices are virtual SCSI devices (see Col 4 Lines 46-65).
- D) As to claims 24, 31, and 46, the additional commands can be considered to be additional "input/output control" commands since they control the operation of the virtual storage device and are passed using the SCSI (I/O) protocol (see Col 5 Line 60 to Col 6 Line 4, Col 6 Lines 17-21, Col 10 Lines 20-24).
- E) As to claims 25, 32, and 47, the storage management components does include a file system (Fig 1 Ref 46).
- F) As to claims 26, 33, and 48, the storage management component of Blades et al. would include a volume manager (see Col 3 Lines 16-23; since Blades et al. can deal with RAID and jukeboxes, these would have "volumes").

***Claim Rejections – 35 USC § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 29-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reuter et al., U.S. Patent 6,772,231.

- A) As to claim 29, Reuter et al. discloses the invention substantially as claimed. There is a storage management components configured to provide one or more virtual storage devices (Fig 1A Ref 150), and wherein a set of commands supported by the storage management system for the virtual storage devices includes (i) a set of standard commands (Col 4 Lines 1-10) and (ii) one or more additional commands (Col 7 Lines 21-30). However, Reuter et al. does not specifically disclose that the system is a computer program. It would have been obvious to one having ordinary skill in the art at the time of the invention that the system described by Reuter et al. could be implemented as a computer program also which would allow it to be utilized on various computer systems.
- B) As to claim 30, the virtual storage devices are virtual SCSI devices (see Col 2 Lines 18-41).
- C) As to claim 31, the additional commands can be considered to be additional "input/output control" commands since they control the operation of the virtual storage device and are passed using the SCSI (I/O) protocol (see Col 7 Lines 21-30).

8. Claims 27, 34, and 49 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Blades et al., U.S. Patent 6,493,811, in view of Luke et al., U.S. Patent 6,985,956.

- A) As to claims 27, 34, and 49, Blades et al. discloses the invention substantially as claimed. However, Blades et al. does not disclose the volume replicator. Luke et al. teaches having a volume replicator for a RAID system that will replicate a volume for data redundancy reasons (see Col 7 Lines 5-10). Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized

the teachings of Luke et al. with the system of Blades et al. and provided a volume replicator that would replicate volumes to provide data redundancy.

9. Claims 28, 35, and 50 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Blades et al., U.S. Patent 6,493,811, in view of Jacobson et al., U.S. Patent 5,546,558.

A) As to claims 28, 35, and 50, Blades et al. discloses the invention substantially as claimed. However, Blades et al. does not disclose a hierarchical storage manager. Jacobson et al. teaches a hierarchical storage manager that migrates data from one storage system to another storage system based upon the accesses to the data and performance requirements (see Col 2 Lines 11-21 and Col 6 Lines 3-17). Accordingly it would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized the teachings of Jacobson et al. with the system of Blades et al. and provide a hierarchical storage manager for the advantages stated by Jacobson et al (see Col 6 Lines 3-17).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L. Ellis whose telephone number is 571-272-4205. The examiner can normally be reached on weekdays from 6:00AM-2:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on 571-272-6799. The fax phone numbers for the organization where this application or proceeding is assigned is 571-272-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kevin L. Ellis  
Primary Examiner  
February 13, 2007

Handwritten signature of Kevin L. Ellis in cursive script.